

International Congress and Expo on **Biofuels & Bioenergy**

August 25-27, 2015 Valencia, Spain

Sustainability perspectives on the energy-water-food nexus: A new technical or political paradigm?

Rocio A Diaz-Chavez
Imperial College London, UK

The debate on the competition for resources use is long established. There have been (and will continue to be) conflicting interests between land, water and energy aims which have prompted searches for optimal options on how to reconcile the synergies and trade-offs that the use of these resources involve. There have also been many different approaches and attempts to reconcile the different views. In particular, the growing interest in bioenergy projects has led to increasing concerns with their wider implications, mainly if grown on a large scale. Concerns focus on the impacts of greenhouse gas emissions (GHG), and on implications for land use, food prices, availability and purchase price of energy, social acceptance and how projects may integrate within society at the macro and micro levels. An integrated production of chemicals and materials with that of bioenergy is essential to enable the maximisation of value at the same time as reducing the carbon footprint. Therefore, the need for a sustainable supply chain is a prerequisite for success. The main objective of the sustainability assessment is to evaluate the sustainability performance of the economic, environmental, social and political processes or products. A number of approaches to assess sustainability using an integrated approach have already been documented. Specifically for bioenergy, the link between constraints on the mapping of bioenergy resources, sustainability appraisal through stakeholder surveys and biodiversity assessment are considered when addressing the sustainability of bioenergy feedstocks. Different methods and frameworks can be used to assess the sustainability of bioenergy production and use, from the environmental management tools (EIA, SIA, SEA) to focused frameworks (e.g. GBEP) and tools (e.g. BBEST) from international organizations such as the Food and Agriculture Organisation. Some of the main concerns will continue to be access and reliability of data and how to deal with the tradeoffs and synergies through collaboration and in a coordinated manner. This will probably require a new view at the energy-water-food nexus through a more efficient land use that evolves from the political will of joining different policy agendas. This paper offers an overview of these methodologies and examines how available tools can help to incorporate them into political contexts at the national and international levels.

Biography

Rocio A Diaz-Chavez is a Research Fellow at CEP Imperial College London. She has over 15 years experience in sustainability assessment. She has worked on EU funded projects related to biomass, climate change, energy and sustainability assessment at global level. She has worked benchmarking standards related to bioenergy and contributed to the Global Bioenergy Partnership developing indicators. She obtained the Young Scientist on Environmental Management Award from SCOPE in 2010.

r.diaz-chavez@imperial.ac.uk

Notes: